

***Indigofera* taxonomy & evolution**

The Fabaceae, with over 760 species, are the second largest family in the Fynbos. Most of the diversity in Fynbos legumes is found in the four tribes (Crotalariaeae, Psoraleeae, Indigofereae and Podalyrieae, in decreasing order), but the Indigofereae is the least studied. *Indigofera* is among the largest genera of legumes in the Cape Flora with over 90 species, including about 30 putatively new species. This project will revise the taxonomy of the Cape clade, with a goal of describing all new species based on existing manuscript names. Within the common fire-prone habitats of the Fynbos, resprouter and reseeder regeneration strategies are observed, begging the question on whether diversification in the genus in this region is driven by adaptation to fire as has been recorded in the Psoraleeae. DNA sequencing (*rbcLa*, *matK*, ITS) will be carried out with the dual purpose identifying the taxa and reconstructing their phylogeny to investigate evolutionary patterns and drivers. Moreover, Cape legumes are not evenly or randomly distributed but form discrete assemblages that occupy distinct edaphic niches. Such niches have unique edaphic parameters (pH, nutrients) and support different assemblages of rhizobia. Therefore, the association of rhizobia with the various *Indigofera* will be investigated and their symbiotic relation will be considered against various environmental parameters. The anticipated outputs include species descriptions (including species pages), identification aids (dichotomous and illustrated interactive keys, DNA barcodes), characterization of rhizobia (including pure culture isolates and barcodes) and edaphic parameters. There is urgency for the taxonomic study of this genus in the Fynbos as it has a unique clade within the genus and as the two expatriate experts in the field are retired, and getting their inputs based on three decades of field and herbarium knowledge now would facilitate local capacity building and enhance the quality of the research.